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09/468,489

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
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09/468,489 12/20/99 ZHANG

EXAMINER
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PATRICK G BURNS ESQ  
GREER BURNS & CRAIN LTD  
SEARS TOWER SUITE 8660  
233 S WACKER DRIVE  
CHICAGO IL 60606

MMC2/0130

ART UNIT	PAPER NUMBER
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COACH, T 7

DATE MAILED: 2811

01/30/01

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

### OFFICE ACTION SUMMARY

- ☒ Responsive to communication(s) filed on November 17, 2000
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

#### Disposition of Claims

- ☒ Claim(s) 1-21 is/are pending in the application.
- Of the above, claim(s) 7-21 is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-6 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

#### Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. § 119

- ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☒ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been
- ☒ received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

- ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

#### Attachment(s)

- ☒ Notice of Reference Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☐ Interview Summary, PTO-413
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

--SEE OFFICE ACTION ON THE FOLLOWING PAGES--

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### **DETAILED ACTION**

Applicant's election with traverse of claims 1-6 in Paper No. 6 is acknowledged. The traversal is on the ground(s) that no serious burden is shown regarding the various patentably distinct species in claims 1-17. This is not found persuasive because of the reasons delineated below. In particular, the traverse does not consider the serious burden created by the various patentable distinct species corresponding to the various embodiments regarding the claimed processes in claims 1-17 as identified in Paper No. 5, pages 2-3. In addition, applicant also does not provide evidence showing the various species to be obvious variants or clearly admit on the record that this is the case.

The requirement is still deemed proper and is therefore made FINAL.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hodate et al.

Taken with Yudasaka et al.

Hodate et al. show implant to form lightly doped region 55 and further implant to form heavily doped region 57. See column 12 lines 9-56. Hodate et al. lack anticipation in that it does not show the patterned island shaped semiconductor layers.

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It would have been obvious to one skilled in the art in practicing the Hodate et al. To have employed the various island patterned semiconductors since such corresponds to conventional patterns as shown in Yudasaka et al. Fig. 4 wherein such would permit the formation of adjacent transistors as shown in Fig. 4 and the corresponding description. The alternative of implant through thin gate insulating layer (corresponding to 50 nm or less) or directly would have been an obvious alternative as shown in Fig. 8A of Hodate et al. and as such would have been obvious. It would have been within the purview of one skilled in the art to have selected conventional implant apparatus as in claim 2, the desired energy as shown in claim 3 given the closely approximate energy shown in Hodate et al. depending on the projected range desired. The use of hydride of dopant as ion source is well known in the art, e.g., Yudasaka et al., column 29 line 18 et seq. and as such would have been obvious.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hodate et al. taken with Yudasaka et al. as applied to claims 1-4 above, and further in view of Yamazaki et al.

The references as applied above do not recite the laser annealing in these claims.

Yamazaki et al. teach the use of laser annealing for recrystallization, see e.g., column 5 lines 60-64 and for activation, see column 6 lines 24-36.

It would have been obvious to one skilled in the art in practicing the above process to have employed Yamazaki et al. as annealing means to recrystallize and activate dopants since such corresponds to conventional techniques for such purposes as shown in Yamazaki et al. The

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damage would be recovered during such activation or alternatively, it would have been within the purview of one skilled in the art to have obtained recovery of damage during such annealing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Quach whose telephone number is (703) 308-1096. The examiner can normally be reached on Monday through Friday from 8:30 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri, can be reached on (703) 306-2794. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Tuan Quach  
Primary Examiner